IN THE CLAIMS:

1. (Withdrawn) A method of modifying a first fluid moving through a vessel prior to the ejection of the first fluid from the vessel comprising:

urging the first fluid into a mixing chamber, the mixing chamber in fluid communication with an exit orifice, the mixing chamber having a passageway in communication with a second chamber through a selectively permeable membrane;

placing the first fluid in contact with the selectively permeable membrane; and

altering the composition of the first fluid before the first fluid exits the mixing chamber by passing a compound between the mixing chamber and the second chamber through the passageway and the selectively permeable membrane.

2. (Withdrawn) The method of claim 1 further comprising:

mixing a second fluid with the first fluid

3. (Withdrawn) The method of claim 1 wherein the second chamber is a second lumen encasing the mixing chamber and wherein a pressure differential exists across the selectively permeable membrane between the mixing chamber and the second chamber.

4. (Withdrawn) The method of claim 1 wherein the fluid is a therapeutic containing a compound, wherein the compound is a therapeutic solvent, and wherein the selectively permeable membrane is permeable to the solvent.

5. (Withdrawn) The method of claim 4 further comprising:

drawing the solvent from the mixing chamber to the second chamber through the selectively permeable membrane; and,

expelling the first fluid from the exit orifice.

6. (Withdrawn) The method of claim 4 further comprising:

inserting the mixing chamber into a patient and positioning the exit orifice near a target site within the patient.

7. (Withdrawn) The method of claim 1 further comprising:

generating a force to increase the passing of the compound through the selectively permeable membrane.

8. (Withdrawn) The method of claim 7 wherein the force is a chemical force.

9. (Withdrawn) The method of claim 1 further comprising:
spinning the mixing chamber.

10. (Withdrawn) The method of claim 1 wherein the mixing chamber is located in the distal end of a catheter.

11. (Withdrawn) The method of claim 1 wherein the compound is added into the first fluid and wherein upon introducing the compound into the first fluid a solid precipitate is formed.

12. (Withdrawn) The method of claim 11 wherein the solid precipitate is a controlled release plug.

13. (Original) A device for modifying a fluid moving through a vessel prior to the ejection of the fluid from the vessel comprising:
a first lumen;
a second lumen;
an exit orifice;
a mixing chamber in communication with the first lumen and the exit orifice,
the mixing chamber having a passageway,
the passageway fluidly connecting the mixing chamber to the second lumen,
the passageway containing a selectively permeable membrane positioned to selectively pass compounds to the passageway.

14. (Withdrawn) The device of claim 13 further comprising:
a third lumen, the third lumen in fluid communication with the mixing chamber, and the mixing chamber in direct contact with the exit orifice.

15. (Original) The device of claim 13 further comprising:
a vacuum source in fluid communication with the second lumen; and,

a resin positioned within the second lumen, the resin adapted to trap and retain compounds passing through the selectively permeable membrane and resident within the second lumen.

16. (Original) The device of claim 13 wherein the selectively permeable membrane is adapted to extract a solvent from fluid in contact with the selectively permeable membrane and wherein the extraction chamber is in direct contact with the exit orifice.

17. (Original) The device of claim 16 wherein the fluid is a therapeutic.

18. (Original) The device of claim 13 wherein the first lumen and the second lumen are concentric about one another and share a longitudinal axis also wherein the second lumen is tapered at its distal end to form a piercing tip.

19. (Withdrawn) A device for modifying a fluid moving through a vessel prior to the ejection of the fluid from the vessel comprising:

a first lumen, the first lumen having an exit orifice;

a second lumen, the second lumen having a sealed end, the second lumen in fluid communication with the first lumen through an opening; and,

a selectively permeable membrane covering the opening, the selectively permeable membrane positioned to filter all fluid passing through the opening, the selectively permeable membrane selectively permeable to predefined compounds of the fluid moving through the first lumen.

20. (Withdrawn) The device of claim 19 wherein the second lumen encases the first lumen and the sealed end of the second lumen is in contact with the exit orifice of the first lumen.

21. (Withdrawn) The device of claim 19 further comprising:

a resin located within the second lumen, the resin adapted to attract and retain a predetermined compound of a fluid passing through the first lumen, the compound permeable through the selectively permeable membrane.

22. (Withdrawn) The device of claim 19 further comprising:

a vacuum source in fluid communication with the second lumen, and

wherein the first lumen contains a plurality of openings with each opening being covered by the selectively permeable membrane.

23. (Withdrawn) The device of claim 19 further comprising:
a pressure source in fluid communication with the first lumen, and
wherein the selectively permeable membrane is connected to the passage by a rigid structure.

24. (New) The device of claim 13 wherein the material comprising the first lumen includes a metal.

25. (New) The device of claim 13 wherein the selectively permeable membrane comprises a polycarbonate.

26. (New) The device of claim 13 wherein the selectively permeable membrane comprises glass microfibers.